

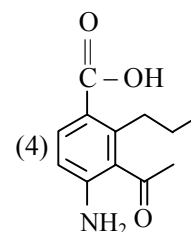
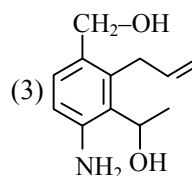
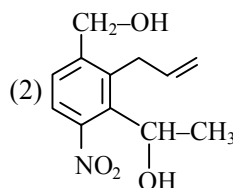
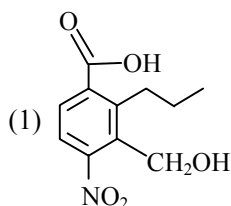
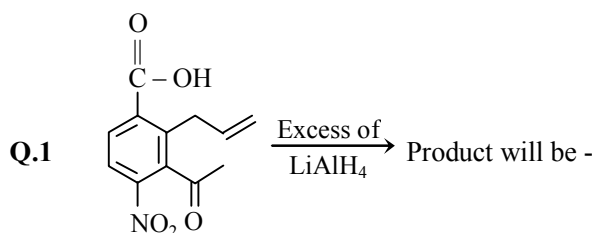
# JEE Main Online Exam 2019

[Memory Based Paper]

Questions & Answer

11<sup>th</sup> January 2019 | Shift - II

## CHEMISTRY



**Ans.** [3]

**Q.2** What is the reason for fading (dullness) of colour of the Taj Mahal -

(1) air pollution

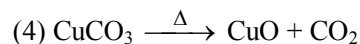
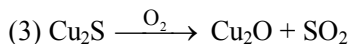
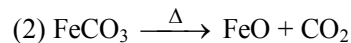
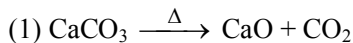
(2) Water pollution

(3) Soil pollution

(4) Acid Rain

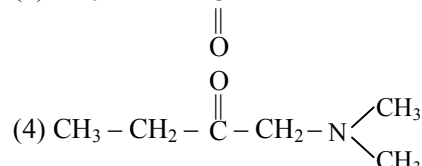
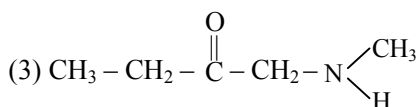
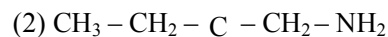
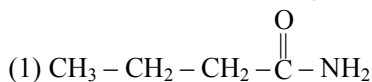
**Ans.** [4]

**Q.3** Which of the following is roasting process -



**Ans.** [3]

**Q.4**  $\text{X} \xrightarrow{\text{Br}_2/\text{NaOH}} \text{C}_3\text{H}_9\text{N}$  (gives carbylamine test) What is the structure of compound X -



**Ans.** [1]



- Q.12** A ball of certain radius is placed on the edge of B.C.C. lattice. What will be its maximum radius without any distortion in B.C.C. structure. Assuming 'a' is edge length of unit cell -  
(1) 0.067 a                      (2) 0.057 a                      (3) 0.060 a                      (4) 0.67 a

**Ans.** [1]

- Q.13** What is the Van't hoff's factor of  $K_2[HgI_4]$  if % dissociation is 40 %  
(1) 1.8                      (2) 1.6                      (3) 2.2                      (4) 2.0

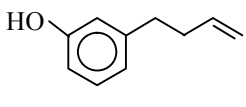
**Ans.** [1]

- Q.14**  $2X \rightarrow Y$   
if  $[X] = 0.2 \text{ M}$  and  $t_{1/2} = 6 \text{ hr}$ . Assuming zero order reaction, how much time is required to change the concentration of X from 0.5 M to 0.2 M  
(1) 18 hrs                      (2) 15 hrs                      (3) 20 hrs                      (4) 16 hrs

**Ans.** [1]

- Q.15** If  $\Delta S = 198 \text{ J}$  and  $\Delta H = 491.1 \text{ kJ}$   
Upto which maximum temperature (in Kelvin) reaction is feasible -  
(1) 2480.3                      (2) 2400                      (3) 2200                      (4) 2300

**Ans.** [1]

- Q.16**  Major (P) will be -



**Ans.** [1]

- Q.17** Which one of the following is correct for cheese, milk and smoke -  
(1) liquid in solid, solid in gas, liquid in liquid                      (2) liquid in solid, solid in gas, liquid in liquid  
(3) liquid in solid, liquid in liquid, solid in gas                      (4) liquid in liquid, liquid in solid, solid in gas

**Ans.** [3]

- Q.18** Which of the following gives precipitate with  $AgNO_3$  ?



**Ans.** [1]

**Q.19**  $\Delta G = a - bT$

Which one is true -

- (1)  $a < 0$  process is endothermic (2)  $a < 0$  process is exothermic  
 (3)  $a < 0$  and  $b > 0$  process is endothermic (4)  $a > 0$  and  $b < 0$  process is exothermic

**Ans.** [2]

**Q.20** 0.1, 30ml  $\text{Na}_2\text{CO}_3$  react with 25 ml HCl, then how much volume of HCl is required to completely neutralise 0.2 M, 30 ml NaOH

- (1) 25 (2) 35 (3) 50 (4) 20

**Ans.** [1]

**Q.21** Photons of  $\nu$  frequency fall on the metal surface having threshold frequency  $\nu_0$  it result in emission of electron whose de-Broglie wavelength is  $\lambda$  then which one is correct -

- (1)  $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{2}}$  (2)  $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{4}}$  (3)  $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^2$  (4)  $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{8}}$

**Ans.** [1]

**Q.22** If  $2\text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{OH}^-$

at equilibrium for above reaction determine value of  $\Delta G^\circ$  if temperature is 298 K -

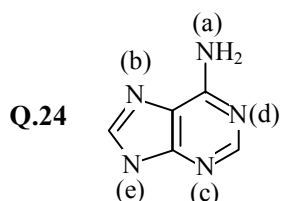
- (1) + 80 kJ (2) - 80 kJ (3) + 100 kJ (4) -100 kJ

**Ans.** [1]

**Q.23** (i) Washing soda (P)  $\text{Ca}_2\text{Al}_2\text{O}_6$   
 (ii) Temporary hardness (Q) Solvay process  
 (iii) NaOH (R) Castner Kellner Cell  
 (iv) Cement (S)  $\text{Mg}(\text{HCO}_3)_2$

- (1) (i) - Q ; (ii) - S ; (iii) - R ; (iv) - P (2) (i) - S ; (ii) - R ; (iii) - P ; (iv) - Q  
 (3) (i) - R ; (ii) - Q ; (iii) - P ; (iv) - S (4) (i) - R ; (ii) - P ; (iii) - S ; (iv) - S

**Ans.** [1]



At which of the following site protonation take place easily -

- (1) a, d (2) a, c (3) b, c, d (4) b, d, e

**Ans.** [3]

**Q.25** How many bridging CO ligand are present and how many Co-Co bonds are present in  $\text{Co}_2(\text{CO})_8$

- (1) 4, 1 (2) 0, 2 (3) 2, 1 (4) 2, 0

**Ans.** [3]

- Q.26** (i) Poison (P) Some drug bind to different site of Enzyme.  
 (ii) Competitive inhibitor (Q) Drug inhibit binding site of the enzyme.  
 (iii) Allosteric site (R) Drug compete with the natural substrate for their attachment on the active site.  
 (iv) Receptor (S) Macromolecule which are crucial to communication system
- (1) (i) – P ; (ii) – Q ; (iii) – S ; (iv) – R (2) (i) – Q ; (ii) – R ; (iii) – P ; (iv) – S  
 (3) (i) – Q ; (ii) – P ; (iii) – S ; (iv) – R (4) (i) – S ; (ii) – P ; (iii) – R ; (iv) – Q

**Ans.** [2]

- Q.27** Which of the following is correct ?

Test		Amino acids	
(a)	Ester test	(i)	Arg
(b)	Carbylamine test	(ii)	Asp
(c)	Phenolphthalene dye test	(iii)	Tyr
		(iv)	Ser

- (1) a – (i) ; b – (ii) ; c – (iv) (2) a – (ii) ; b – (i) ; c – (iii)  
 (3) a – (i) ; b – (iii) ; c – (ii) (4) a – (iii) ; b – (ii) ; c – (i)

**Ans.** [2]

- Q.28** Which of the following react with Et-mg-Br and also give Br<sub>2</sub> / H<sub>2</sub>O test -



**Ans.** [4]